

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claim 1 (Currently Amended): A method of manufacturing a piezoelectric element, comprising the steps of:

applying a masking agent to a surface of a piezoelectric material ~~to be processed to form a film of the masking agent on the surface of the piezoelectric material;~~

~~shaping~~ patterning a ~~the~~ film of the masking agent ~~to~~ into a predetermined masking pattern;

holding the film in contact with a vapor of a solvent for the masking agent, so as to fluidize the film to a domed shape on the surface of the piezoelectric material; ~~and~~

curing the dome-shaped film; and

~~processing~~ dry etching the piezoelectric material together with the cured film, so as to process the piezoelectric material to into a three-dimensional convex profile corresponding to thickness distribution of the domed shape.

Claim 2 (Original): The method of Claim 1, wherein the surface of the piezoelectric material is partially treated with an oil repellant.

Claim 3 (New): A method of manufacturing a piezoelectric element, comprising:

applying a masking agent to a surface of a substrate made of a piezoelectric material to form a film of the masking agent on the surface of the substrate;

patterning the film of the masking agent into a predetermined masking pattern;

contacting the patterned film with a vapor of a solvent for the masking agent to fluidize the patterned film into a dome shape;

curing the dome-shaped film; and

dry etching the surface of the substrate together with the cured film to process the substrate into a three-dimensional convex structure of a profile corresponding to a thickness distribution of the domed shape.

Claim 4 (New): The method of Claim 3, wherein the dome-shaped film is cured by UV irradiation.

Claim 5 (New): The method of Claim 3, wherein the solvent vapor is diluted with an inert gas.

Claim 6 (New): The method of Claim 3, wherein the surface of the substrate is partially treated with an oil repellant.

Claim 7 (New): The method of Claim 3, wherein the dry etching is conducted by using a perfluorocarbon, SF₆, chlorine or iodine gas.